

4. (Amended) The quartz glass ingot manufacturing apparatus of claim 2-~~or~~³, wherein the furnace bed being covered with a layer of zirconia particles.

7. (Amended) The method of manufacturing an elongated quartz glass ingot of claim 5-~~or~~⁶, wherein laying a quartz glass plate between the furnace bed and the nozzle, thereby sealing the nozzle from the atmosphere of the furnace.

8. (Amended) The method for manufacturing an elongated quartz glass ingot of ~~any one of~~ claim 5 to ~~7~~Claim 5, wherein the nozzle being projected to inside of the furnace.

12. (Amended) The quartz glass burner ~~fir~~for manufacturing a quartz glass ingot of claim 10-~~or~~¹¹, wherein the oxygen gas nozzles being arranged noncircular and equidistantly and a part of the hydrogen gas being introduced between the oxygen gas nozzles.